



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/277,312	03/26/1999	MARK R. BUCKINGHAM	53836USA1A	3332

32692 7590 05/22/2003

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER

SZEKELY, PETER A

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/277,312		Applicant(s) <span style="float: right;">8m 24</span> BUCKINGHAM ET AL	
	Examiner Peter Szekely		Art Unit 1714	

**-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 14 April 2003.

2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 17, 19, 21-23 and 25-30 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 17, 19, 21-23 and 25-30 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
--	---

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 28 and 29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no mention in the specification of a softness value range of about 0.49 to about 1.45 mm or an expansion ratio at least 2.5 times greater than the same composition would have if processed under high shear conditions with volatiles present. This is a new matter rejection. Applicants should point out, with page and line where the above phrases can be found in the instant specification.

***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 17, 19, 21-23 and 29-30 are rejected under 35 U.S.C. 102(b or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Okisaki et al. 5,810,914, Horacek 6,031,040 or Gato 6,124,394, in view of von Bonin et al. 4,694,030, von Bonin 4,729,853, von Bonin 5,053,148, von Bonin 5,094,780, von Bonin

et al. 5,173,515 or von Bonin 5,382,387, with Welna 5,578,671 used as a teaching reference.

5. New claim 27 is identical to canceled claim 13, which was finally rejected on October 16, of the year 2000. It has not gotten any more allowable since then. As the examiner has remarked before the incessant repetition of the phrase that the "references fail to disclose, teach or suggest a method of preparing a flexible intumescent fire barrier material including water-insoluble intumescent mineral granules, halogen free binder, and a phosphorus containing flame retardant in a substantially volatile free state, wherein the composition has a softness value from about 0.01 to about 3.75, and mixing the mixture under high shear conditions" does not prove anything, and is repetitive, boring and irritating. Since applicants elected to put the softness value back into the independent claim, Welna et al. has been relegated back into the role of teaching reference, just like in Paper #16, in order to show the equivalence of expandable graphite and alkali metal silicate hydride. The rejections are maintained.

***Response to Arguments***

***Response to Arguments***

6. Applicant's arguments filed 4/14/03 have been fully considered but they are not persuasive. Welna has been eliminated as a primary reference, due to applicants' restoration of the hardness into the independent claim. Okisaki et al. disclose polyesters, polyamides and polyphenylene oxide in claim 1. These polymers are not exceptionally hard, not harder than a penetration value of 0.1, definitely not harder than

the thermosetting polymers applicants claim. For example phenolics and epoxies are thermosetting resins. They are very hard. But so is a penetration of 0.1 mm. Furthermore, flexibility depends on the thickness of object and the force exerted to make it bend. A thin sheet of steel can be quite flexible. ABS resins are rubbers. Only claim 19 claims rubbers and EVA. The new range of softness value is new matter. Horacek does not mention breaking the fibers under high shear, and the extrusion described in column 2, lines 25-43 by means of a twin screw extruder or a Buss kneader certainly qualifies as high shear mixing. The presence of the fibers would not interfere with applicants' invention and thus neither the "comprising" nor the "consisting essentially of" language would eliminate Horacek as a valid reference. In Goto et al. the methods that may crush the graphite are not identified as high shear mixing. Kneading can cover a multitude of sins and kneading can be done with high pressure and very low shear. In column 7, lines 38-41 however, Goto et al. recite mixing with Henschel mixers, which are definitely high shear mixers. The rejections are maintained.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
8. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Szekely whose telephone number is (703) 308-2460. The examiner can normally be reached on 7:00 a.m-5:30 p.m. Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Peter Szekely  
Primary Examiner  
Art Unit 1714

P.S.  
May 20, 2003